

What is claimed is:

1. A method of sanitizing a food product,
5 comprising

applying an aqueous sanitizing liquid onto the food product by spraying it onto all exterior surfaces of the food product from a plurality of directions while moving the food product laterally with respect to 10 the sprays, wherein the velocity of each spray is sufficient to wet microbes adhered to the surface of the food product,

wherein the sanitizing liquid comprises ozone at a concentration of up to 15 ppm,

15 maintaining contact between said sanitizing liquid and said food product for at least a time effective to maximize wetting of the surface of the food product by the sanitizing liquid containing said at least one agent,

20 and then removing mechanically at least 75% of said liquid from said food product.

25 2. A method according to claim 1 wherein the food product is moved on a conveyor between sprays located above and below said conveyor.

30 3. A method according to claim 1 wherein the sanitizing liquid also comprises a surfactant in an amount which is physiologically nontoxic.

4. A method according to claim 1 wherein said liquid is removed mechanically from said food product

by one or more of spinning, shaking, vacuum removing, or subjecting the food product to the action of an air knife.

5 5. A method according to claim 1 wherein after the step in which at least 75% of said sanitizing liquid is removed from the food product, the food product is passed through an aqueous mist which comprises a preserving agent.

10 6. A method according to claim 1 wherein sanitizing liquid removed from said food product is recycled and applied to additional food product.

15 7. A method according to claim 1 wherein said sanitizing liquid also comprises at least one agent which inactivates food microbes wherein said agent is present in a concentration sufficient to inactivate food microbes.

20 8. A method for increasing the shelf life of a food product comprising introducing an aqueous solution of ozone into interstices of the food product and then removing mechanically at least 75% of the water in said 25 interstices, wherein the ozone concentration of said solution is sufficient to permit said removal of at least 75% of said water.

30 9. A method of prolonging the appearance of freshness of a food product which is a vegetable or fruit, comprising

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applying an aqueous sanitizing liquid onto the food product by spraying it onto all exterior surfaces of the food product from a plurality of directions while moving the food product laterally with respect to the sprays, wherein the velocity of each spray is sufficient to wet microbes adhered to the surface of the food product,

wherein the sanitizing liquid comprises ozone at a concentration of up to 15 ppm,

10 maintaining contact between said sanitizing liquid and said food product for at least a time effective to maximize wetting of the surface of the food product by the sanitizing liquid containing said at least one agent,

15 and then removing mechanically at least 75% of
said liquid from said food product.

10. A method according to claim 9 wherein the food product is moved on a conveyor between sprays 20 located above and below said conveyor.

11. A method according to claim 9 wherein the sanitizing liquid also comprises a physiologically nontoxic surfactant.

25 12. A method according to claim 9 wherein said
liquid is removed mechanically from said food product
by one or more of spinning, shaking, vacuum removing,
or subjecting the food product to the action of an air
30 knife.

13. A method according to claim 9 wherein after the step in which at least 75% of said sanitizing liquid is removed from the food product, the food product is passed through an aqueous mist which 5 comprises a preserving agent.

14. A method according to claim 9 wherein sanitizing liquid removed from said food product is recycled and applied to additional food product.

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15. A method according to claim 9 wherein said sanitizing liquid also comprises at least one agent which inactivates food microbes wherein said agent is present in a concentration sufficient to inactivate 15 food microbes.

16. A method according to claim 1 further comprising removing liquid from said food product by positioning beneath the food product a device 20 comprising

a main conduit oriented vertically and open at its upper and lower ends, and preferably having at its upper end an annular flange terminating in a planar top surface,

25 an air knife means sealingly connected to an opening in the side of said main conduit and positioned in said opening to eject air or other gas downward in said main conduit, wherein the inside diameter of the main conduit between said opening and said upper end is 30 less than the inside diameter of the main conduit below said opening,

wherein the portion of the main conduit downstream of said opening, beginning from said opening, exhibits an expansion angle of up to 3 degrees for a distance at least 6 times the diameter of the main conduit at said 5 connection, and

gas supply means in fluid communication with the inlet of said air knife means for blowing gas into said inlet at a velocity sufficient that said gas is ejected into said main conduit at a sufficient velocity to draw 10 air and any liquid entrained in the air into said upper end and out said lower end, and actuating said gas supply means so as to draw liquid off of food product positioned over said device.

15 17. A method according to claim 16 wherein said expansion angle is at least 0.5 degree.

18. A device useful in removing liquid from a product, comprising

20 a main conduit oriented vertically and open at its upper and lower ends, and preferably having at its upper end an annular flange terminating in a planar top surface,

25 an air knife means sealingly connected to an opening in the side of said main conduit and positioned in said opening to eject air or other gas downward in said main conduit, wherein the inside diameter of the main conduit between said opening and said upper end is less than the inside diameter of the main conduit below 30 said opening,

wherein the portion of the main conduit downstream of said opening, beginning from said opening, exhibits

an expansion angle of up to 3 degrees for a distance at least 6 times the diameter of the main conduit at said connection, and

gas supply means in fluid communication with the 5 inlet of said air knife means for blowing gas into said inlet at a velocity sufficient that said gas is ejected into said main conduit at a sufficient velocity to draw air and any liquid entrained in the air into said upper end and out said lower end.

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19. A device according to claim wherein said expansion angle is at least 0.5 degree.